Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1	"20060159182" .pn.	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/05 12:52
S2	14528	707/101-104.1.ccls.	US-PGPUB; USPAT; IBM_TDB	OR ·	ON	2007/10/03 10:46
S3	14528	707/101-104.1.ccls.	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/03 11:22
S4	184	S3 AND ((audio\$3 WITH video\$3) SAME (data SAME (decod\$3 decrypt\$3 break\$3)))	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/03 20:10
S5	110	S4 AND (@ad<"20030714" or @rlad<"20030714")	US-PGPUB; USPAT; IBM_TDB	OR	ÓN	2007/10/03 11:29
S6	71	S5 AND (stream\$3 same system)	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/03 21:04
S7	9	S6 AND (((control43 regulate\$3 manag\$3 monipulat\$3 handl\$3) SAME (data\$3 information\$3)).ab.	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/03 11:53
S8	29	S4 AND (((control43 regulate\$3 manag\$3 monipulat\$3 handl\$3) SAME (data\$3 information\$3)).ab.	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/03 11:54
S9	34	S4 AND (((control43 regulate\$3 manag\$3 monipulat\$3 handl\$3 length\$3) SAME (data\$3 information\$3)).ab.)	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/03 11:55
S10	11	S6 AND (((control43 regulate\$3 manag\$3 monipulat\$3 handl\$3 length\$3) SAME (data\$3 information\$3)).ab.)	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/03 12:54
S11	1629	S3 AND (((control43 regulate\$3 manag\$3 monipulat\$3 handl\$3 length\$3) SAME (data\$3 information\$3)).ab.) not(S4 or S5)	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/03 12:07
S12	1629	S3 AND (((control43 regulate\$3 manag\$3 monipulat\$3 handl\$3 length\$3) SAME (data\$3 information\$3)).ab.) not (S4 or S5)	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/03 12:07

S13	. 34	S4 AND (((control43 regulate\$3 manag\$3 monipulat\$3 handl\$3 length\$3) SAME (data\$3 information\$3)).ab.) not (S11 or S12)	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/03 12:09
S14	3	S4 AND (((first second third) SAME (data\$3 adj stream\$3)).ab.) not (S11 or S12)	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/03 12:11
S15	1	"5790138".PN.	USPAT; USOCR	OR	ON	2007/10/03 12:51
S16	1	"5790130".PN.	USPAT; USOCR	OR.	ON	2007/10/03 12:53
S17	1	"5699539".PN.	USPAT; USOCR	OR	ON	2007/10/03 12:53
S18	7	S4 AND (multimedia\$3 SAME (data WITH packet\$3))	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/03 14:13
S19	33	S3 AND (multimedia\$3 SAME (data WITH packet\$3))	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/03 21:25
S20	2	S4 AND (append\$3 SAME (data WITH packet\$3))	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/03 14:20
S21	1	S19 AND (append\$3 SAME (data WITH packet\$3))	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/03 14:21
S22	111	S4 AND (control WITH data)	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/03 21:25
S23	1	S22 AND (append\$3 SAME (data\$3 WITH packet\$3))	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/03 14:36
S24	2	S4 AND (append\$3 SAME (data\$3 WITH packet\$3))	US-PGPUB; USPAT; IBM_TDB	OR .	ON	2007/10/03 14:36
S25	25	S3 AND (MPEG-4 SAME (data\$3 WITH stream\$3))	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/03 16:06
S26	0	S9 AND (MPEG-4 SAME (data\$3 WITH stream\$3))	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/03 14:39
S27	8	S4 AND (MPEG-4 SAME (data\$3 WITH stream\$3))	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/03 15:20
S28	0	S4 AND ((control\$3 WITH data\$3) SAME (append\$3 SAME packet\$3))	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/03 14:41

S29	29	S4 AND ((control\$3 WITH data\$3) SAME (append\$3 packet\$3))	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/03 14:42
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S31	1	"5502573".pn.	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/03 16:14
S32	1	"3898376".PN.	USPAT; USOCR	OR	ON	2007/10/03 16:31
S33	1	"5677901".PN.	USPAT; USOCR	OR	ON	2007/10/03 16:32
S34	1	"5771331".PN.	USPAT; USOCR	OR	ON	2007/10/03 16:32
S35	1	"6148026".PN.	USPAT; USOCR	OR	ON	2007/10/03 19:21
S36	1	"5995171".PN.	USPAT; USOCR	OR	ON	2007/10/03 19:22
S37	1	"5936674".PN.	USPAT; USOCR	OR	ON	2007/10/03 19:22
S38	1	"5912707".PN.	USPAT; USOCR	OR	ON	2007/10/03 19:25
S39	1	"5898695".PN.	USPAT; USOCR	OR	ON	2007/10/03 19:26
S40	1	"5796871".PN.	USPAT; USOCR	OR	ON	2007/10/03 19:26
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S45	. 1	"6263089".PN.	USPAT; USOCR	OR	ON	2007/10/03 20:58
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S56	1	"20060136440".pn.	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/04 17:31
S57	1	"5502573" .pn.	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/04 19:54
S58	0	"61488026".pn.	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/04 19:55
S59	1	"6148026".pn.	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/04 20:31
S60	1	"20050120038".pn.	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/04 20:32
S61	14559	707/101-104.1.ccls.	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/05 12:53
S62	184	S61 AND ((audio\$3 WITH video\$3) SAME (data SAME (decod\$3 decrypt\$3 break\$3)))	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/05 12:53
S63	110	S62 AND (@ad<"20030714" or @rlad<"20030714")	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/05 12:53
S64	1632	S61 AND (((control43 regulate\$3 manag\$3 monipulat\$3 handl\$3 length\$3) SAME (data\$3 information\$3)).ab.) not(S62 or S63)	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/05 12:53
S65	1	S64 AND substream	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/10/05 12:54

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Seeing, hearing, and touching: putting it all together

Brian Fisher, Sidney Fels, Karon MacLean, Tamara Munzner, Ronald Rensink
August 2004 ACM SIGGRAPH 2004 Course Notes SIGGRAPH '04

Publisher: ACM Press

Full text available: pdf(20.64 MB) Additional Information: full citation

<sup>2</sup> High dynamic range imaging

Paul Debevec, Erik Reinhard, Greg Ward, Sumanta Pattanaik August 2004 ACM SIGGRAPH 2004 Course Notes SIGGRAPH '04

Publisher: ACM Press

Full text available: pdf(20.22 MB) Additional Information: full citation, abstract

Current display devices can display only a limited range of contrast and colors, which is one of the main reasons that most image acquisition, processing, and display techniques use no more than eight bits per color channel. This course outlines recent advances in high-dynamic-range imaging, from capture to display, that remove this restriction, thereby enabling images to represent the color gamut and dynamic range of the original scene rather than the limited subspace imposed by current monitor ...

3 Low power SOCs and NOCs: Disk drive energy optimization for audio-video



applications

Ravishankar Rao, Sarma Vrudhula, Musaravakkam S. Krishnan
September 2004 Proceedings of the 2004 international conference on Compilers,
architecture, and synthesis for embedded systems CASES '04

Publisher: ACM Press

Full text available: pdf(653.24 KB)

Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>citings</u>, <u>index</u> terms

Earlier techniques for low power speed control in disk drives running audio/video applications attempted to either match the drive's speed to the data rate requirement of the host application (just-in-time speed), or run it at the maximum drive speed, neither of which are energy-optimal in general. Starting from the theory of DC motors, we obtain a high-level power model of a disk drive. We then analytically obtain the speed profile (function of time) that minimizes the energy required to transf ...

**Keywords:** disk drive, low power, multimedia, speed control

Scalable and fault-tolerant support for variable bit-rate data in the exedra streaming



server

Stergios V. Anastasiadis, Kenneth C. Sevcik, Michael Stumm

November 2005 ACM Transactions on Storage (TOS), Volume 1 Issue 4

Publisher: ACM Press

Full text available: pdf(1.01 MB) Additional Information: full citation, abstract, references, index terms

We describe the design and implementation of the Exedra continuous media server, and experimentally evaluate alternative resource management policies using a prototype system that we built. Exedra has been designed to provide scalable and efficient support for variable bit-rate media streams whose compression efficiency leads to reduced storage space and bandwidth requirements in comparison to constant bit-rate streams of equivalent quality. We examine alternative disk striping policies, and qua ...

**Keywords:** Content distribution, multimedia compression

5 Wireless & mobility: Energy-aware video streaming with QoS control for portable



computing devices

Morihiko Tamai, Tao Sun, Keiichi Yasumoto, Naoki Shibata, Minoru Ito

June 2004 Proceedings of the 14th international workshop on Network and operating systems support for digital audio and video NOSSDAV '04

Publisher: ACM Press

Additional Information: full citation, abstract, references, citings, index Full text available: pdf(102.94 KB) terms

We propose an energy-aware video streaming system for portable computing devices, in which the video can be played back for the specified duration within the remaining battery amount. To save power, we introduce techniques (i) to reduce playback quality of a video at an intermediate proxy and (ii) to shorten working time of the network I/F card using periodic bulk transfer of the video data on the wireless LAN. To enable playback for the specified duration, we have developed a power consumption ...

Keywords: QoS, energy-aware systems, video streaming, wireless LANs

6 An intelligent media browser using automatic multimodal analysis



Jonathan Foote, John Boreczhy, Andreas Girgensohn, Lynn Wilcox

September 1998 Proceedings of the sixth ACM international conference on Multimedia **MULTIMEDIA '98** 

Publisher: ACM Press

Full text available: 📆 pdf(605.45 KB) Additional Information: full citation, references, citings, index terms

Keywords: automatic analysis, content-based retrieval, skimming, spacker identification, video, visualization

7 Measurements and analysis: Analysis of multimedia workloads with implications for



internet streaming

Lei Guo, Songging Chen, Zhen Xiao, Xiaodong Zhang May 2005 Proceedings of the 14th international conference on World Wide Web

#### **WWW '05**

Publisher: ACM Press

Full text available: pdf(794.98 KB) Additional Information: full citation, abstract, references, index terms

In this paper, we study the media workload collected from a large number of commercial Web sites hosted by a major ISP and that collected from a large group of home users connected to the Internet via a well-known cable company. Some of our key findings are: (1) Surprisingly, the majority of media contents are still delivered via downloading from Web servers. (2) A substantial percentage of media downloading connections are aborted before completion due to the long waiting time. (3) A hybrid app ...

The evolution of DVI system software

James L. Green

January 1992 Communications of the ACM, Volume 35 Issue 1

Publisher: ACM Press

Full text available: pdf(4.34 MB)

Additional Information: full citation, references, citings, index terms,

review

**Keywords:** DVI, digital multimedia systems

9 Multimedia coding and security: Content-based UEP: a new scheme for packet loss.



recovery in music streaming

Ye Wang, Ali Ahmaniemi, David Isherwood, Wendong Huang

November 2003 Proceedings of the eleventh ACM international conference on **Multimedia MULTIMEDIA '03** 

Publisher: ACM Press

Full text available: pdf(415.11 KB)

Additional Information: full citation, abstract, references, citings, index <u>terms</u>

Bandwidth efficiency and error robustness are two essential and conflicting requirements for streaming media content over error-prone channels, such as wireless channels. This paper describes a new scheme called content-based unequal error protection (C-UEP), which aims to improve the user-perceived QoS in the case of packet loss. We use music streaming as an example to show the effectiveness of the new concept. C-UEP requires only a small fraction of the redundancy used in existing forward erro ...

Keywords: audio coding and streaming, content-based unequal error protection (C-UEP), error robustness, packet loss recovery, prioritized resource allocation, user-perceived QoS

10 Efficient method for multiple compressed audio streams spatialization



Abdellatif Benjelloun Touimi, Marc Emerit, Jean-Marie Pernaux

October 2004 Proceedings of the 3rd international conference on Mobile and ubiquitous multimedia MUM '04

Publisher: ACM Press

Full text available: pdf(238.80 KB) Additional Information: full citation, abstract, references

This paper deals with the spatialization of multiple compressed audio streams. A new approach is proposed based on the combination of subband-domain filtering methods with linear decomposition methods of HRTFs filters, and more generally the filters used by sound spatialization techniques (binaural, transaural, ambisonic, etc). Such a combination allows both computation complexity reduction and memory size saving for sound spatialization systems of multiple compressed audio signals. These advant ...

**Keywords**: 3D sound, HRTFs, compressed domain processing, linear decomposition, streaming, subband filtering

11 Streaming: Impact of FEC overhead on scalable video streaming

Seong-ryong Kang, Dmitri Loguinov

June 2005 Proceedings of the international workshop on Network and operating systems support for digital audio and video NOSSDAV '05

Publisher: ACM Press

Full text available: pdf(199.90 KB)

Additional Information: full citation, abstract, references, citings, index

Forward-error correction (FEC) is used in many streaming applications for protecting multimedia data over lossy network paths. However, studies in the literature [1, 3, 4] report conflicting results on the benefits of FEC. To address this uncertainty, we study the performance of FEC-based streaming and provide additional insight into how FEC overhead rate affects the performance of scalable video streaming under dynamically changing network packet loss. Through analytical investigation, we deriv ...

**Keywords:** forward error correction, video streaming

12 Streaming 2: Server-based smoothing of variable bit-rate streams



Stergios V. Anastasiadis, Kenneth C. Sevcik, Michael Stumm

October 2001 Proceedings of the ninth ACM international conference on Multimedia **MULTIMEDIA '01** 

Publisher: ACM Press

Full text available: pdf(851.29 KB)

Additional Information: full citation, abstract, references, citings, index

We introduce an algorithm that uses buffer space available at the server for smoothing disk transfers of variable bit-rate streams. Previous smoothing techniques prefetched stream data into the client buffer space, instead. However, emergence of personal computing devices with widely different hardware configurations means that we should not always assume abundance of resources at the client side. The new algorithm is shown to have optimal smoothing effect under the specified constraints. We inc ...

13 Systems 4 - coding support: A utility-driven framework for loss and encoding aware





video adaptation

Srinivas Krishnan, Ketan Mayer-Patel

September 2007 Proceedings of the 15th international conference on Multimedia **MULTIMEDIA '07** 

Publisher: ACM Press

Full text available: pdf(1.04 MB) Additional Information: full citation, abstract, references, index terms

We present a framework for multidimensional utility-driven adaptation for multi-stream video applications. A notable driving application is 3D tele-immersion. Our framework directly models the utility of video frames as well as representation dependencies that arise from differential encoding. The problem of evaluating past and future data utility in the presence of packet loss is specifically addressed and two possible approaches are described. One relies on reliability semantics of the unde ...

**Keywords**: multi-stream adaptation, utility-based adaptation

Interacting with media: Interacting with audio streams for entertainment and communication





Mat C. Hans, Mark T. Smith

### November 2003 Proceedings of the eleventh ACM international conference on Multimedia MULTIMEDIA '03

Publisher: ACM Press

Full text available: pdf(656.98 KB)

Additional Information: full citation, abstract, references, citings, index terms

We present a new model of interactive audio for entertainment and communication. A new device called the DJammer and its associated technologies are described. The DJammer introduces the idea of provisioning mobile users to interact cooperatively with digital audio streams. Users can augment the audio in real time and communicate the result in several ways resulting in a new form of multimedia communication across diverse devices and multiple networks. This paper describes the technologies incor ...

Keywords: connectivity, context awareness, digital content, distributed multimedia communication, distributed systems, mobility, network aggregation, peer-to-peer, rich media

15 Poster session and reception: Task oriented non-linear method for interactive



hypervideo media editing systems

Dr. Portnykh Vladimir, Dr. Kim Deok-Ho

December 2002 Proceedings of the tenth ACM international conference on Multimedia **MULTIMEDIA '02** 

Publisher: ACM Press

Full text available: pdf(94.82 KB) Additional Information: full citation, abstract, references, index terms

An apparatus and method for home and professional media editing aims is presented. The method uses task -oriented approach rather than well-known "timeline" or "storyboard" ways for dealing with media (video and audio) resources. The aim of this paper is to describe AVSEL, a language that can be used for formalization of user actions during editing video resources. In particular, logic aspects of editing process is underlined, namely, editing process is considered as process of making decisions ...

**Keywords:** hypervideo editing systems, meta-language, optimization

16 Improving resource utilization for MPEG decoding in embedded end-devices Michael Ditze, Peter Altenbernd, Chris Loeser



January 2004 Proceedings of the 27th Australasian conference on Computer science -Volume 26 ACSC '04

Publisher: Australian Computer Society, Inc.

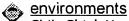
Full text available: pdf(418.19 KB) Additional Information: full citation, abstract, references, index terms

Video streaming applications (e.g. video conferencing, video-on-demand) increasingly strive for deployment in small embedded systems that traditionally exhibit small computational resources as well as low speed internal network connections, e.g. set top boxes, mobile phones or PDAs. Whereas the latter is addressed by the new scalability features in the MPEG-2 and MPEG-4 standards, the computational resources still must be used effectively, all the more as continuously improved compression algori ...

**Keywords:** MPEG-2, MPEG-4, Quality of Service, real time system, workload balancing

17 Mobile and distributed systems: Streaming support for Java RMI in distributed





Chih-Chieh Yang, Chung-Kai Chen, Yu-Hao Chang, Kai-Hsin Chung, Jeng-Kuen Lee

### August 2006 Proceedings of the 4th international symposium on Principles and practice of programming in Java PPPJ '06

Publisher: ACM Press

Full text available: pdf(412.48 KB) Additional Information: full citation, abstract, references, index terms

In this paper we present novel methodologies for enhancing the streaming capabilities of Java RMI. Our streaming support for Java RMI includes the pushing mechanism, which allows servers to push data in a streaming fashion to the client site, and the aggregation mechanism, which allows the client site to make a single remote invocation to gather data from multiple servers that keep replicas of data streams and aggregate partial data into a complete data stream. In addition, our sys ...

Keywords: Java RMI, Java-based tools, aggregation scheduling methods, novel applications of Java, streaming Java RMI

<sup>18</sup> Video abstraction: A systematic review and classification

Ba Tu Truong, Svetha Venkatesh

February 2007 ACM Transactions on Multimedia Computing, Communications, and Applications (TOMCCAP), Volume 3 Issue 1

Publisher: ACM Press

Additional Information: full citation, appendices and supplements, Full text available: pdf(380.77 KB) abstract, references, index terms

The demand for various multimedia applications is rapidly increasing due to the recent advance in the computing and network infrastructure, together with the widespread use of digital video technology. Among the key elements for the success of these applications is how to effectively and efficiently manage and store a huge amount of audio visual information, while at the same time providing user-friendly access to the stored data. This has fueled a quickly evolving research area known as vide ...

Keywords: Video summarization, keyframe, survey, video abstraction, video skimming

19 Passive capture and structuring of lectures

Sugata Mukhopadhyay, Brian Smith

October 1999 Proceedings of the seventh ACM international conference on Multimedia (Part 1) MULTIMEDIA '99

Publisher: ACM Press

Additional Information: full citation, abstract, references, citings, index Full text available: pdf(2.15 MB) terms

Despite recent advances in authoring systems and tools, creating multimedia presentations remains a labor-intensive process. This paper describes a system for automatically constructing structured multimedia documents from live presentations. The automatically produced documents contain synchronized and edited audio, video, images, and text. Two essential problems, synchronization of captured data and automatic editing, are identified and solved.

**Keywords:** audio/video capture, educational technology, matching

20 Detection of video sequences using compact signatures

Justin Zobel, Timothy C. Hoad

January 2006 ACM Transactions on Information Systems (TOIS), Volume 24 Issue 1

Publisher: ACM Press

Full text available: pdf(725.90 KB) Additional Information: full citation, abstract, references, index terms

Digital representations are widely used for audiovisual content, enabling the creation of large online repositories of video, allowing access such as video on demand. However, the ease of copying and distribution of digital video makes piracy a growing concern for content owners. We investigate methods for identifying coderivative video content---that is, video clips that are derived from the same original source. By using dynamic programming to identify regions of similarity in video signatures ...

Keywords: Video similarity detection, dynamic programming, local alignment

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